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The Ampulicidae and Sphecidae (Sphecinae) Taken at Kartabo and Other Localities in British Guiana.

(Hymenoptera).¹

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(During the eight years of occupancy, by the Department of Tropical Research, of the New York Zoological Society's Station at Kartabo, British Guiana, extensive collections of insects were made. Most of these were taken in the quarter-mile area under intensive study—what may be called the Guiana Junglezone. Details and a general summary of this area may be found in "Studies of a Tropical Jungle," *Zoologica*, Vol. VI, No. 1.)

INTRODUCTION.

The insects treated of in this paper were collected in British Guiana by members of the Tropical Research Station, New York Zoological Society, mainly at or near Kartabo. A few were taken at Arakaka on the Barima River in northern British Guiana; others at Mt. Everard on the Waini River; at Wismar on the west bank of the Demerara River; at Waratuk on the Potaro River below Kaieteur Falls; and at Lama Stopoff, just east of Georgetown.

While the Ampulicidae are few in number it is interesting to note that both species, described by Kohl, do not appear to have been recorded since, so far as literature available to the writer shows.

In the Sphecinae all four tribes are represented and as usual for tropical regions, the Chlorionini are the most abundant. That only four specimens of Sphecini are present is a little surprising as several others are liable to occur in this region.

Only one of three species of *Sceliphron* from this part of South America is represented, but twelve specimens indicate its abundance. No doubt further collecting in the northern and central portions of British Guiana will show the presence of other species of all the groups included in this paper.

FAMILY AMPULICIDAE.

Ampulex Jurine.

Jurine, 1807. *Nouv. meth. de class. les Hymen.*, Pl. 14, p. 132.

Ampulex sagax Kohl.

Kohl, 1893. *Ann. des k.k. naturhist. Hofmus. Wien*, Vol. VIII, Hefts 3 & 4, pp. 477, 480.

Two female specimens, one from Kartabo, 28-V-1924; the other 24978 only. The only reference to this species is the original description where no locality is given. Kohl writes that he considers it a tropical species.

Ampulex minor Kohl.

Kohl, 1893. *Ann. des k.k. naturhist. Hofmus. Wien*, Vol. VIII, Hefts 3 & 4, p. 480.

One female from Kartabo, 21-V-1924. The only other reference is by Kohl whose specimen came from Brazil.

FAMILY SPHECIDAE.

Subfamily Sphecinae.

For many years this group was rated as a family but it has now been reduced to subfamily rank along with other former families.

The Sphecinae are divided into four tribes, the Podiini, Sceliphronini, Chlorionini and Sphecini. All four of these tribes are represented in this collection.

Tribe Podiini.

Podium Fabricius.

Fabricius, 1804. *Syst. Piez.*, p. 183.

Podium (Dynatus) nigripes Westwood.

Westwood, 1832. *Griff. Anim. Kingd.*, Vol. XV, p. 516, fig. 3. (*Dynatus*).

One female, Kartabo, 29-III-1924. This species occurs from Mexico to Argentina.

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Podium (Trigonopsis) abdominale
Perty.

Perty, 1833. Delect. anim. artic. Brasil, p. 142, Pl. 27, fig. 18. (*Trigonopsis*).

Three specimens: one male from Kartabo, 9-VI-1924; a female, also from Kartabo, 5-IV-1922 and a female variety from Bartica District, 6-V-1922. This species is found from Guatemala to Brazil and Peru.

***Podium brevicolle* Kohl?**

Kohl, 1902. Abhandl. d. k.k. zool-botan. Ges. Wien, Vol. I, Heft 4, p. 62.

One male specimen, probably of this species, taken at Kartabo and labelled "Peach killer." This species is found from Mexico to Brazil.

***Podium gorianum* Lepeletier.**

Lepeletier, 1845. Hist. nat. Ins., Hym., Vol. III, p. 324.

Sixteen specimens, all females; eleven from Kartabo, 23-VIII-1920; 24-VII-1922; 29-V, 3-VI, 11-VI, 15-VI, 28-VI, 1924; No. 22414; and two undated; Bartica District, 1, 2, and 3-VI-1924; 174; two without data. This species has been taken from Surinam to Brazil (Para).

Tribe Sceliphronini.

In this tribe only the genus *Sceliphron* is represented and that by only one species.

***Sceliphron* Klug.**

Klug, 1801. Neu Schrift. Ges. naturf. Fr. Berlin, Vol. III, p. 561.

***Sceliphron fistulare* Dahlbom.**

Dahlbom, 1843. Hym. Eur., Vol. I, p. 22, no. 8. (*Pelopoeus*).

Twelve specimens, all females; Kartabo, 1919, 63, 20-VII-1922; 8, 4; No. 20859; Kalacoon, 1916 (2); Arakaka, 21-XII-1922 (2); Lama Stopoff, 14-X-1917; Kartabo, Hym.; no data, one specimen. This species is present in the neotropical region from Mexico to Paraguay (Argentina?).

Tribe Chlorionini.

This is the most abundantly represented tribe of the subfamily. Five divisions of the group, rated by some workers as genera, by others as subgenera, are recognized. The writer treats them here as subgenera, three of which are represented in this collection.

***Chlorion* Latreille.**

Latreille, 1802. Hist. nat. Crust. & Ins., Vol. III, p. 333.

Subgenus *Priononyx* Dahlbom.

Dahlbom, 1845. Hym. Eur., Vol. I, p. 439, No. 14.

***Chlorion (Priononyx) striatum* Smith.**

Smith, 1856. Cat. Hym. Brit. Mus., Vol. IV, p. 266. (*Priononyx*).

One female specimen taken at Kartabo, IV-3-1926. Distribution—Nevada?; Arizona to Argentina.

Subgenus *Isodontia* Patton.

Patton, 1880. Proc. Bost. Soc. Nat. Hist., Vol. XX, p. 380.

Chlorion (Isodontia) costipennis
Spinola.

Spinola, 1851. Mem. Acad. Sc. Torino, Vol. XIII, p. 54, No. 35. (*Sphex*).

Four males and eight females. Males: Kartabo, 6-X-1921, 6-VI-1924; Mt. Everard, 15-XI-1922; Arakaka, 2-XII-1922; Females: Kartabo, 2-IV-1924, 3-VI-1924, 3-VII-1924; Bartica District, 20-IX-1917 (2); Penal Settlement; W. Bank Dem. R. 5-I-1923; Mt. Everard, 15-XI-1922. Distribution—Santo Domingo; Mexico to Brazil.

***Chlorion (Isodontia) dolosum* Kohl.**

Kohl, 1895. Ann. des. k.k. naturh. Hofmus., Vol. X, Heft 1, p. 49.

Two female specimens taken at Kartabo, 21-V and 1-VI-1924.

From the literature available these specimens seem to be the only examples of this species captured since the one described by Kohl, recorded as from French Guiana, and they vary somewhat from his description. In one specimen the legs and petiole are entirely black, while in the other they are partly red. The abdomen, though partly red, has dark shades here and there, and the black hairs on the clypeus are large and almost bristle-like; elsewhere they are yellowish, almost golden in places.

These insects, while for the most part Isodontian in character, also possess some features like *Ammobia*. In one specimen there is an evident stigmatal groove and the petiole is shorter and straighter than in most Isodontias. There seems to be what may be considered a rudimentary tarsal comb of seven short, stout spines much like those present in *Ch. (Isodontia) aztecum* to which this species also seems to be most closely related in general by its stout structure and petiole length. The form of the second cubital cell and the distance apart on the radial vein of the second and third transverse cubital veins compared with that between the second transverse cubital and the second recurrent veins on the cubital vein are typically Isodontian. Also the jaws do not each reach to the base of the other when closed, the two teeth being short.

This species may fairly be placed at the end of the series of *Isodontia* species, nearest to *Ch. (Isodontia) aztecum* on the one

hand and to *Ch. (Ammobia)* species on the other, much as *Ch. (Ammobia) lucae* is related to the other *Ammobias*. Kohl's specimen was recorded as from French Guiana.

Subgenus *Ammobia* Billberg.

Chlorion (Ammobia) brasilianum
Sauss.

Saussure, 1867. *Reise d. Novara*, Zool., Vol. II, p. 39.

Four female specimens: Kalacoon, 1916, Hym. 25; W. Bank Dem. R., 9-II-1923; Waratuk, 16-II-1921; 29-IV-1924. This species occurs from Guatemala to Brazil.

Chlorion (Ammobia) melanopum
Dahlbom.

Dahlbom, 1843. Hym. Eur., Vol. I, p. 27.

Eleven male specimens, taken at Kartabo, 29-II-1924; 1-III-1924; 10-V-1924; 24-V-1924; Trop. Research Station, New York Zool. Soc., No. 20900; No. 20550; Bartica, 27-V-1924 (2); Arakaka, 21-XII-1922 (2); one with no data. Reported from Brazil, only, heretofore.

Chlorion (Ammobia) funestum Kohl.

Kohl, 1890. *Ann. des k.k. naturhist. Hofmus. Wien*, Vol. 5, Heft 3, p. 397.

Nine females represent this species in the collection. They were taken at Arakaka, 20-XII-1922; 21-XII-1922 (2); Trop. Research Station, New York Zool. Soc., No. 20960; Kartabo, 5-XI-1920; W. Bank Dem. R., 9-II-1923 and 29-III-1924. It has been reported from Brazil.

Chlorion (Ammobia) neotropicum
Kohl?

Kohl, 1890, *Ann. des k.k. naturhist. Hofmus. Wien*, Vol. V, Heft 3, p. 222.

I have doubtfully referred four female specimens in this collection to this species as they more nearly agree with it than with any other.

Kalacoon, 1916, Bartica Dist., Br. Guiana, Hym. 71; Trop. Research Station, New York Zool. Soc., No. 21109; two without data. This species has been captured in Brazil.

Chlorion (Ammobia) singularis Smith.

Smith, 1856. *Cat. Hym. Ins. Brit. Mus.*, Vol. IV, p. 261. (*Spheg*).

Two males and three females. Males: Kartabo, 1922; 1917 Penal Settlement Hym. 222; Females: Kartabo, 1922; Arakaka, 21-XII-1922 (2).

Distribution—Southern U. S.; West Indies; Mexico to Brazil.

In this interesting species the males may be entirely black with no ferruginous markings or they have such markings. Their presence with females of Cresson's *Ch.*

(*Ammobia*) *dubitatum* of which no certain males have been found, together with other facts of distribution, etc., makes it almost sure that these are the two sexes of *singularis*. In this lot the males have the ferruginous markings.

Chlorion (Ammobia) ichneumoneum
Linnaeus.

Linnaeus, 1758. *Syst. Nat.*, Ed. X, Vol. 1, p. 578, No. 27. (*Apis*).

The thirteen specimens in this collection are as follows. Male: Kartabo, 23-V-1924; Females: Kartabo, 201266, 201285, 21106, 12-V, 18-IV-1919; Bartica District, 28-V-1924 (2), 30-V-1924, 4-VI-1924, Hym. 125; two with no dates.

This widely dispersed and variable species is found in its typical form in the United States. Farther south, increase of the ferruginous of the petiole and abdomen, a darkening of the wings and variation of the amount of ferruginous on the legs have been recognized as marking varietal forms which at their extremes have been named.

The specimens in this collection are all varieties, but none of them has varied to such an extent as to become a named variety.

Distribution—North, Central and South America, at least as far as Brazil, with varieties in the warmer regions.

Tribe Sphecini.

Spheg Linnaeus.

Linnaeus, 1758. *Syst. Nat.*, Ed. X, Vol. 1, p. 569.

The insects of this genus were for many years called *Ammophila*.

Spheg abbreviatus Fab.

Fabricius, 1804. *Syst. Piez.*, p. 204. (*Pelopoeus*).

Five specimens of this species are in the collection. Males: Kartabo, No. 20700, 201283, W. Bank Dem. R., 5-I-1923, 1917 Penal Settlement, Hym. 28; Female: Kartabo, No. 20699.

This species occurs from Central America to Brazil.

Spheg melanarius Dahlb.

Dahlbom, 1843. Hym. Eur., Vol. I, p. 15. (*Ammophila*).

One male, Kartabo, 11-VI-1924. Distribution—South America; Brazil.

Spheg muticus Dahlb.

Dahlbom, 1845. Hym. Eur., Vol. I, p. 431. (*Ammophila*).

Two specimens. Male: Kalacoon, 1916, Hym. 300; Female: Kartabo, 29-III-1924. This species is reported from Brazil.

***Sphex opulentus* Guerin.**

Guerin, Duperry, 1830. Voy. Coquille, Zool., Vol. II, P. 2, p. 261. (*Ammophila*).

This large species, widely distributed in South America, is represented in this collec-

tion by five specimens. Male: Kartabo, No. 201135, 23-XI-20; Females: Kartabo, 1922; No. 201135, 23-XI-1929; 120. It has been recorded from Colombia to Paraguay, at least.